Art. XXV.—*Contributions to the Flora of Australia, No. 16.*[1]

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(With Plates XLIX-LVII.)

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Acacia Kochii (W. V. Fitzgerald, MS.), Ewart and White, n.sp. (Leguminosae). (Pl. XLIX., Figs. 1–5).

Watheroo Rabbit fence, Max Koch, 1905, No. 1616.

A tall shrub, glabrous, with spinescent branches. Phyllodes from .5-1 inch in length, and 1-3 lines broad, slightly falcate, with small pungent points flattened vertically. There is a prominent, almost central vein, and several prominent lateral veins on each side, stipules absent. Peduncles solitary, about ½ an inch long, bearing a small cylindrical spike of about 30-50 crowded flowers.

Flowers 5-merous, sepals united except at the top, where there are 5 somewhat obtuse lobes. Petals at least twice as long as the sepals, free and slightly pointed at the free ends.

Stamens numerous—Fruit much twisted and constricted between the seeds, 2.5-3 inches in length, pointed at both ends.

The species would come in the Series III., Pungentes of Bentham, on account of its possessing phyllodia, spinescent branches and cylindrical inflorescence. This last character would place it into the Sub Series D Spicatae, from which, however, it differs in having 5-merous flowers. In this respect apparently, the definition of the subseries might be extended. Baron von Mueller

1 No. 15 in Proc. Roy. Soc. Victoria, vol. xxiii., Pt. 1, n.s. (1910), p. 110.

placed the sub-section Spicatae under the Juliflorae, which seems on the whole a less artificial arrangement than Bentham's. This species is the only one of the Spicatae sub-section found in West Australia, whereas the remainder of the Juliflorae includes Western as well as Eastern species. The above manuscript name was attached to the specimen by W. V. Fitzgerald, but no description of the plant has hitherto been published.

Acacia leptoneura, Benth., var. eremophila, Ewart and White (A. eremophila, W. V. Fitzgerald, MS.).

(Pl. L., Figs. 1–4).

Cowcowing, West Australia. Max Koch, 1904, No. 1024a.

The principal characters in this new variety are:—Shrubs $1\frac{1}{2}$-2 feet high, the young stems closely covered with woolly grey hairs. Phyllodia almost terete, but slightly flattened, glabrous, about 2 inches long, with small recurved points.

The inflorescence is almost sessile, and composed of 10-15, 5-merous flowers. Sepals rectangular, united about half their length. Petals free, obtuse, smooth. Ovary sessile, nearly glabrous. Pods (only seen when young) $\frac{1}{4}$-1 inch in length, and less than 1 line in breadth, very much twisted and covered with dense woolly grey hairs; not constricted between the seeds.

This specimen was made into a new species by W. V. Fitzgerald, but no technical description has been published hitherto.

The chief difference between it and Bentham's description of *leptoneura* is that there are fewer flowers in the head than in the typical *A. leptoneura*, and hence the heads are smaller. The No. 1338a, of Max Koch appears to be typical *A. leptoneura*, but has no fruits.

Of two fruiting specimens placed under *A. leptoneura* by Baron von Mueller, one (Mt. Jackson, Young, 1875), has pods 6 centimetres long, by about 2 millimetres broad, not or very slightly constricted between the seeds, the other (Mrs. Heal, Swan River, 1890), has pods 3 or 4 centimetres long, little more than a millimetre broad, and strongly constricted between the seeds. This was at first considered the type of a new species, but subsequently placed by Mueller under *A. leptoneura*. If so, it represents a well-marked variety, but both these fruiting speci-

mens are without flowers, and hence their correct identification is uncertain.

ACACIA EWARTIANA (W. V. Fitzgerald, MS.), White, n. sp. (Pl. L., Figs. 5–7).

Cowcowing, West Australia, Max Koch, 1904, No. 998.

A shrub 2-3 feet high.

Stems nearly terete, glabrous.

Phyllodia nearly terete, somewhat curved with several longitudinal veins, rigid, usually $\frac{1}{2}$-$\frac{3}{4}$ inch in length, rather obtuse at the tip, where there is a small straight or very slightly hooked pungent point, distinctly articulated on the stem. Scattered stipules either absent or deciduous. The heads are very small and globular, measuring about 1 line in diameter, and composed of about 10 small 5-merous flowers, axillary, solitary, on slender pedicles of 1-1$\frac{1}{2}$ lines in length. Bracts broad, pointed at the ends, brown.

Sepals only united at the extreme base, not exceeding half the length of the petals, obtuse, edged with short processes. Petals united about $\frac{1}{2}$ their length, the 5 lobes being rather smooth, obtuse.

Stamens numerous. Ovary sessile, glabrous. Fruit not seen.

Acacia Ewartiana seems to fall under Series III. Pungentes (Benth.), except that the phyllodia are slightly obtuse.

It apparently comes nearest to Acacia striatula, but differs in the following characters.

(1.) The branches are not minutely pubescent.

(2.) The phyllodia are not tapering.

(3.) The flowers are not numerous on the heads.

(4.) The midribs are not prominent in the petals.

ALOE ARBORESCENS, Miller. (Liliaceae). "Tree Aloe."

Mentone, Miss A. Tovey, July, 1910.

Growing as a garden escape on the railway line at Mentone. It is a native of South Africa, and bears a handsome spike of red flowers.

ANGIANTHUS LANIGERUS, Ewart and White, n. sp. (Compositae). (Pl. LI., Figs. 1–5).

Wooroloo, Max Koch, 1907, No. 1873.

Herbs 4-8 inches in height, stems freely branching, especially towards the top, glabrous when old—when young covered with dense white woolly hairs. Leaves .5-1 inch long, sessile, linear, pointed, but expanded and slightly ensheathing at the base, more or less covered with white hairs, alternate. Inflorescence solitary, axillary, 2-3 lines in diameter, ovoid-convex, surrounded by an involucre of foliose, lanceolar, rather pointed bracts, which are covered with white woolly hairs, and have very small membranous margins, and are about 2 lines in length, being longer than the florets. There is an inner circle of flat, membranous bracts, which are obtuse, and provided at the top with a tuft of hairs, and have a very small foliose portion in the centre.

Partial heads 1-flowered surrounded by 3 membranous bracts all of which are lanceolar, obtuse at the top, where also there is a tuft of hairs, and all are more or less concave. The pappus is absent, and the florets are pale yellow in colour, and 5-merous, and not thickened at the base except as the fruit begins to ripen, when the base becomes very slightly thickened. Achenes slender, pale in colour, about one-third the length of the floret, somewhat tapering at the base.

The species seems to be nearest to *Angianthus strictus*, to which it was referred as a variety in the Contributions to the Flora of Australia, No. 12 (Proc. Roy. Soc. of Victoria 22, 1909, p. 92). It differs in the following respects:—

(1.) The bracts surrounding the compound head are broader and much less pointed.

(2.) The whole inflorescence is much more woolly.

(3.) The number of bracts surrounding each partial head is 3 (rarely 4), instead of 2.

It has been referred to *A. Preissianus* by another botanist, but differs from that species in the following respects:—

(1.) The plant is much larger and more vigorous, and branches more freely.

(2.) The bracts of the partial heads are more concave, and each has a fringe of hairs on the upper margin.

(3.) The florets have not the thickened base of *A. Preissianus.*

(4.) The partial heads are always 1-flowered.

(5.) There is no pappus.

(6.) The florets are 5-merous.

(7.) The achene is much more slender, longer and lighter in colour.

Asplenium furcatum, Thunb. (Filicineae).

Lowden, Preston River, West Australia, Max Koch, Oct., 1909. No. 1927.

Australina pusilla, Gaud. (Urticaceae).

The plant is given in the last Census as from Victoria, Tasmania, New South Wales and Queensland. This is because Mueller considered *A. pusilla* and *A. Muelleri*, Wedd., to form one species. They are undoubtedly distinct. *A. Muelleri* occurs in Tasmania, Victoria, New South Wales, and possibly also in Queensland, although no Queensland specimens have been seen, and Bailey gives it as from Queensland on Mueller's assertion alone. *A. pusilla* is confined to Tasmania of the Australian States, although it is also found in New Zealand.

Banksia integrifolia, L.fil. (Proteaceae).

Mt. Redman, Grampians, A. G. Campbell, Sep., 1910.

Smooth leaved forms on exposed highlands from 2500 feet, forms with leaves mainly with serrated edges at 1500—2500 feet in gully heads.

Banksia marginata, Cav. (Proteaceae).

Mt. Redman, Grampians, edge of highland morass, A. G. Campbell, Sep., 1910.

(The leaf often closely resembles that of *B. collina*, which is recorded from Mt. Ararat, and is distinguished by its larger flowers and strongly hooked styles.)

Bartsia trixago, L. (Scrophulariaceae). "Trixago Bartsia."

Near Newstead, County of Talbot, F. M. Reader, 31/10/1909.

A new locality in Victoria for this naturalised alien. Previously recorded from Broadmeadows.

Boronia denticulata, Sm. (Rutaceae).

Donnybrook, West Australia, Max Koch, Oct., 1909. No. 1934.

The specimen has the larger sepals and more umbellate inflorescence of *B. fastigiata*, Bartl., but has the longer pedicels of *B. denticulata*. Other specimens join these two species, and justify Mueller's inclusion of *B. fastigiata* as a variety of *B. denticulata*. The distinctive features are the inflorescence, leaves and sepals, all of which are variable and occur in various combinations.

Caladenia latifolia, R.Br., var. glandula, Ewart and Wood, new var. (Orchidaceae).

Lowden, Preston River, West Australia, Max Koch, Nov. and Dec., 1909. No. 1944.

The plant is somewhat more hairy and the leaves are shorter and narrower. The chief differences, however, are in the flowers. The perianth segments are dotted closely on the outer surface with brown glandular hairs, especially towards the ends, and they are more blunt than in the type *Caladenia latifolia*. Owing to the lesser number of hairs, the veins show up more clearly on the perianth of *Caladenia latifolia*. The labellum in each is three-lobed, but in the variety, the middle lobe is shorter than that of the type, and its margin is distinctly crenate. The flowers are pale yellow instead of pink or white, as in the type.

Caladenia Patersoni, R. Br., var. dilatata. (Orchidaceae).

Lowden, Preston River, West Australia, Max Koch, Oct. 1909. No. 1930.

Calocephalus Skeatsiana, Ewart and White. (Compositae).

Mr. Max Koch writes that the habit of this plant is quite prostrate, the numerous branches are flat on the ground.

Conyza scabiosaefolia, Remy. (Compositae). "Rough Conyza."

Government House Reserve, April, 1897, J. R. Tovey; Elsternwick, July, 1910, Gordon Parker.

This plant is a native of Chili, and appears now to be definitely established as a naturalised alien in the Melbourne district. It was originally identified by Mr Luehmann as *Conyza aegyptiaca*, Aiton., a native of North Australia and Queensland, as well as of Asia and Africa. It differs from that species in the involucre, indumentum, leaves and achene. The plant appears to have originally escaped from the Botanical Gardens, its pappus bearing seeds being readily carried by the wind.

Cotula australis, J. Hook. (Compositae).

Lowden, Preston River, West Australia, Max Koch, Sep., 1909. No. 1929.

Cotula coronopifolia, L. (Compositae).

Lowden, Preston River, West Australia, Max Koch, Sep., 1909. No. 1936.

Darwinia citriodora, Benth. (Myrtaceae).

Lowden, Preston River, West Australia, Max Koch, Oct., 1909. No. 1941.

Eremophila Merralli, F.v.M. (Pholidia coerulea, Spencer le Moore). (Myoporineae). (Pl. LIII., Figs. 1–3, 7).

The first name is given in the Kew Index, but occurs as a nomen nudum without description in the Victorian Naturalist, vol. ix., p. 63, 1892. The unpublished manuscript description attached to the specimen by Mueller, is given beneath:—

"Vestiture copious, consisting of ramified spreading hairlets: leaves small, crowded, sessile, somewhat semi-cylindric, blunt, bearing on the lower side hemispherically protruding resinous glandules: flowers small, singly sessile, in the axils of leaves towards the end of the branches; segments of the calyx almost linear, acute, lanuginous: corolla twice or thrice as long as the

calyx upwards blue, near its base suddenly cylindrical narrowed outside, rather sparsely beset with soft hairlets inside, at and towards the lowest lobe bearing long tender intricate hairlets, the two upper lobes deltoid, the two lateral lobes ovate-semi-lanceolar, the lowest lobe more roundish, stamens all shorter than the corolla, their anthers bluish; style nearly glabrous; ovulary densely beset with white appressed hairlets."

Eremophila Merralli is quite distinct from the type *Eremophila gibbosifolia* (pl. liii., f. 4-6). The calyx of *Eremophila gibbosifolia* is glabrous, whereas that of *Eremophila Merralli* is densely hairy. Also the corolla of the latter is sparsely beset with hairlets outside, and inside the few branching hairlets are found near the lower lobe, the lateral lobes are almost acute, and the two upper lobes are small and deltoid.

The corolla of *E. gibbosifolia* is glabrous outside, and inside the lower lobe bears a dense soft mass of hairlets.

The fruits differ in shape and hairness, as shown on the plate. The fruit of *E. Merralli* is a bi- tri- or quadrilocular drupe, with one seed in each loculus, a thin fleshy mesocarp, and a hard stony endocarp.

The Elder expedition specimen, as well as the *Pholidia coerulea* of Spencer le Moore, which he considers to be the same plant, seem to resemble *Eremophila Merralli* closely, and the former specimen was, in fact, labelled by Baron von Mueller as *E. Merralli*. The calyx is less hairy, and in this respect Spencer le Moore's specimens, which were distinguished by him as a separate species "*Pholidia coerulea*," show an approach towards *E. gibbosifolia*, but the difference is hardly sufficient for the recognition of a distinct species or even variety. The question of priority is a matter of some difficulty in this case, assuming *Pholidia* and *Eremophila* to be interchangeable, but Mueller's name has been accepted in the Kew Index, as well as at the National Herbarium for many years, and it is possible a description may have been published in some out-of-the-way publication, although no record of it can be found.

Wangering, West Australia, R. Helms, 14/11/91 (Elder exploring expedition). Parker's Range, West Australia, E. Merrall, 1891; L. Deborah, near Mt. Moore, 1889, E. Merrall; Gibraltar, West Australia, S. Le Moore, Oct., 1895.

ERIOSTEMON LINEARIS, Cunn. (Rutaceae).

Cowcowing, West Australia, Max Koch, Oct., 1909, No. 1231.

New for West Australia, only known previously from South Australia and New South Wales. Mueller, in his later years, evidently considered this to be a variety of *E. difformis*, A. Cunn., but the species differ in several respects, particularly in the leaves and inflorescence.

ERYNGIUM ROSTRATUM, Cav. (Umbelliferae).

Lowden, Preston River, West Australia, Max Koch, Sep., 1909. No. 1593.

GASTROLOBIUM SPINOSUM, Benth. (Leguminosae).

Lowden, Preston River, West Australia, Max Koch, Oct., 1909. No. 1940.

GREVILLEA OXYSTIGMA, Meissn. (Proteaceae).

Lowden, Preston River, West Australia, Max Koch, Sep., 1909. No. 1948.

HAKEA SULCATA, R. Br., var. INTERMEDIA, Ewart and White, new var. (Proteaceae).

Cowcowing, West Australia, Max Koch, 1904. No. 1056.

This variety seems to be nearest to *Hakea sulcata*, var. *scoparia*, from which it differs, however, in being of a more slender type, in having less sulcate leaves, and in possessing a prominent ridge round the stigmatic cone.

In this last respect, it resembles the typical *H. sulcata* from which, however, it differs in the following characters:—

(1.) The leaves are much longer, and are not so prominently sulcate.

(2.) The pedicels usually slightly exceed 1 line in length.

(3.) The hypogynous gland is much longer and more conspicuous.

HALGANIA LEHMANNIANA, Sond. (Boraginaceae).

In the Contributions to the Flora of Australia, No. 13 (Proc. of the Royal Soc. of Vict., vol. xxii., p. 321), after *Halgania Lehmanniana*, Sond., for (Solanaceae), read (Boraginaceae).

Hibbertia montana, Steud., var. confertifolia, (Dilleniaceae).

Lowden, Preston River, West Australia, Max Koch, Oct., 1909. No. 1950.

Hypocalymma robustum, Eudl. (Myrtaceae).

Donnybrook, Preston River, West Australia, Max Koch, Sep., 1909. No. 1949.

Juncus bufonius, L. (Juncaceae).

Lowden, Preston River, West Australia, Max Koch. Oct., 1909. No. 1938.

Juncus homalocaulis, F. v. M. (Juncaceae).

Lowden, Preston River, West Australia, Max Koch, Oct., 1909. No. 1939.

Labichea punctata, Benth (Leguminosae).

Lowden, Preston River, West Australia, Max Koch, Sep., 1909. No. 1947.

Linum albidum, Ewart and White, n.sp. (Linaceae). "Rodway Flax." (Pl. LIV., Figs. 1, 2, 4).

Western mountains, Tasmania, 4000 feet altitude, L. Rodway.

A glabrous herb from about 6 inches to 1.5 feet high. Stems slender, upright, and rather ribbed, with few basal leaves. Leaves 2 lines to half-an-inch length, alternate, lanceolate, pointed, exstipulate, sessile, but slightly ensheathing and narrowed at the base.

Inflorescence as in *Linum marginale*, forming a loose irregular,terminal corymb. Sepals 2-3 lines long, ovate, lanceolate, acuminate, with a narrow scarious margin as in *L. marginale*, but they differ from this species in not possessing a very prominent midrib, the sepals have a more rugose surface, and a broader membranous base.

Petals white, about twice as long as the sepals.

Stamens 5 united into a basal ring, the 5 staminodia being represented by minute points attached to the ring, alternating

with the stamens and opposite the petals. Ovary similar to that of the L. marginale, but a little more convex at the top. Style about half-a-line in length, and the branches only united about $\frac{1}{4}$ of their length, the free parts radiating, and with a slightly pappulose terminal stigma on each. Fruit a superior capsule, dividing into 5 cocci, with 2 small flat seeds in each compartment. The plant does not appear to agree with any non-Australian Linums. It was found in a district not invaded by aliens, and was sparingly distributed over an area of some miles. There seems to be no doubt that it represents an undescribed species of very restricted range, and is of especial interest as forming an addition to a genus represented in Australia by a single endemic species.

Linum gallicum, L. (Linaceae). "Yellow Flax."

Cheltenham, Dec., 1873; Warragul, Gippsland, 1904; H. B. Williamson.

This European Flax with small yellow flowers was recorded in Bentham's Flora as naturalised in New South Wales round Parramatta (also Sydney), but has not previously been recorded for Victoria.

Linum grandiflorum, Desf. (Linaceae). "Splendid Flax."

Barrier Range, New South Wales, E. Wehl, 1887.

Probably only a garden escape.

Logania serpyllifolia, R. Br. (Loganiaceae).

Lowden, Preston River, West Australia, Max Koch, Sep.-Nov., 1909. No. 1932.

Monotaxis occidentalis, Endl. (Euphorbiaceae).

Lowden, Preston River, West Australia, Max Koch, Sep.-Nov., 1909. No. 1946.

Pascalia glauca, Orteg. (Compositae). "Pascalia."

Ascot Vale, Melbourne, O. Youngman, Aug. 1910.

This plant, a native of Chili, has hitherto only been recorded from the Railway Reserve at North Melbourne. It is evidently

naturalising itself in the Melbourne district. It does not appear to be either actively useful or actively injurious, but is useless for fodder, and has no known economic or poisonous properties.

Poranthera Huegelii, Klotz. (Euphorbiaceae).

Lowden, Preston River, West Australia, Max Koch, Oct., 1909. No. 1943.

Sagina apetala, L. (Caryophyllaceae).

Lowden, Preston River, West Australia, Max Koch, Oct., 1909. No. 1928.

Sarga, Ewart, new genus. (Gramineae).

Spikelets one-flowered on filiform pedicels, in groups of 3. One hermaphrodite spikelet being situated below 2 male spikelets, the rachis of each group of 3 spikelets being articulated below the glumes of the hermaphrodite spikelet; the part of the rachis above the articulation forming a sharp-pointed stipe to the fruit.

Glumes 3, the two outer unawned, and hardened when the fruit is ripe, the flowering glume membranous and awned in the hermaphrodite flower, unawned in the male flowers.

Awn dorsal and persistent, and bent about one-third of its length from the glume, the part below the bend being spirally twisted.

Stigma lobes covered all over with rather long processes.

Caryopsis narrow, and enclosed in the persistent, hardened sterile glumes.

The genus belongs to the group Agrostideae (Engler and Prantl). Owing to its having a membranous flowering glume, it falls under sub-group B, and under the section d of Engler and Prantl's Pflanzenfamilien, because the stigmatic lobe have processes situated all round them. It belongs to the same Sub-section as the genus Limnas, from which, however, it differs in the following important respects:—

(1.) In height and general habit Limnas is a short, slender type of grass.

(2.) All the spikelets in Limnas are hermaphrodite, and they do not occur in definite groups of 3.

(3.) The awn is short.

(4.) In Limnas, the style branches are united above the middle of their length.

The fact that the classification adopted for the Agrostideae brings these two widely dissimilar grasses close together is sufficient to show its artificial character. The fruit of Sarga shows much external resemblance to that of Stipa. This would be still further increased by the loss of the lateral male spikelets and their stalks, leaving the short pointed disarticulating common stalk as the basal point of the Stipa fruit. The latter is, however, within the outer glumes in Stipa, but below them in Sarga, so that the two mechanisms are morphologically dissimilar, in spite of their homoplastic resemblance.

This feature, and the readily separated awn of Sarga, thus shows the beginnings of a parallel development of the dispersal mechanism, so highly perfected in Stipa. On Bentham's classification, the grass would form the type of a new sub-section "Sargaceae" intermediate between the Stipaceae and Agrostideae, and with the following characters:—

"Spikelets one-flowered, two male spikelets, and a single hermaphrodite one, on a common stalk: awn long, dorsal, loosely attached, twisted and bent: fruiting glume thin, but the fruit enclosed by the outer hard persistent glumes, and the persistent pedicels of the male flowers, hairs present on the pointed axis below the articulation of the 3 spikelets."

SARGA STIPOIDEA, Ewart and White, n. sp. (Gramineae).
(Pl. LV., Figs. 1–7).

Stems very long, round, solid, with swollen nodes, attaining 5 to 8 or 10 feet in height, and 4 to 10 cms. in diameter; apparently perennial at the base—erect, glabrous, with conspicuous nodes. Leaves about 4 lines in breadth, with a very prominent central midrib, glabrous on the upper surface, but very slightly hairy underneath, with short split sheaths at the base, and longer ones enclosing the stem higher up. Ligule small, membranous, the notch between it and the stem filled with hairs.

Panicle loose, about 1 foot or a little more in length, pedicels very slender and numerous, situated in whorls along the main

axis 1-5 inches apart, and closer towards the top. The common pedicel to each group of 3 spikelets about 2-6 inches, bearing terminally a hermaphrodite spikelet and 2 lateral male spikelets on stalks of slightly unequal length. The common pedicel above the oblique pointed articulation, possesses comparatively long silky white hairs, which turn brown when the fruit is ripe, the stalks of the 2 male spikelets are edged with a row of similar hairs, are broader than the common pedicel and are slightly flattened. There are 2 keel-shaped empty, unawned, sterile glumes in both kinds of spikelets, about 3 lines long, and covered externally with soft white hairs. In the hermaphrodite spikelet, they are rather hard and rigid, and wrapped round the gynaecium, and their extremities are blunt and shortly bilobed. In the male spikelets, they remain more or less membranous, and their extremities are acuminate.

There is one transparent, flowering glume, which, without the awn, is about $\frac{3}{4}$ the length of the outer glumes. The twisted awn is attached to the back of the flowering glume near the base, is sharply bent, measures 3-4 inches in length, and is hairy at the edges.

The Pale is membranous, transparent, 2-nerved, a little shorter than the flowering glume.

Stamens 3, similar in both kinds of flower.

Ovary free from the glume, styles 2, very fine, united for about $\frac{1}{4}$ of their length — 1-1$\frac{1}{2}$ lines long.

Stigmas about 1 line long, pointed at the end.

Fruit surrounded by the persistent glumes, which are dark brown, shining, and almost glabrous when the fruit is ripe, and also by the persistent, flattened pedicels of the male spikelets.

Caryopsis about 2 lines long. Starch grains simple and compound, but mostly simple.

Prince Regent's River, North-West Australia, Bradshaw and Allen, 1891; Napier, Broome Bay, North-West Australia, G. F. Hill, 18/5/10. No. 161.

This large and striking grass, with almost cane-like stems and solid internodes, filled with loose pith, comes from a district hitherto little explored, and may possibly be only locally distributed. It is apparently a semi-aquatic reed-like grass. The leaves and young shoots seem to be nutritious, and the loosely

awned fruits would be less obnoxious than those of *Stipa*. The stems are, however, too hard to be of much use for fodder, though softer and more slender in young plants.

SCHOENUS ODONTOCARPUS, F. v. M. (Cyperaceae).

Lowden, Preston River, West Australia, Max Koch, Oct., 1909. No. 1937.

SOLANUM NUMMULARIUM, Spencer le Moore (Journ. Linn. Soc., 34, p. 205), = S. ORBICULATUM, Dun. (Solanaceae).

This is a somewhat dwarfed form of the above species. The characters relied on to distinguish it—rustiness of tomentum, smaller flowers with narrower corolla lobes, smaller leaves, and more pointed anthers—vary independently of each other on certain specimens. The Elder exploring expedition specimens from Fraser Range and L. Deborah, have these characters united, as in Spencer le Moore's specimen, and were placed by Tate and also by Mueller under *S. orbiculatum*. That from the Victorian Desert Camp, 54, has the rusty tomentum combined with large leaves (up to 1 inch in length and breadth), and large flowers, but relatively narrow corolla lobes. On most specimens the leaves are less than $\frac{1}{2}$ inch long.

STYLIDIUM ALSINOIDES, R. Br., var. CORDIFOLIUM. (Stylideae). (Pl. LVI.).

This plant has been considered by certain West Australian botanists as a distinct species, on the basis of the following features: —

Branches, angled or winged, leaves cordate, or ovate and sessile, the two lower calyx segments connate to above the middle, and the segments of the corolla also more united. These are, however, all independently variable characters, the most marked tendency being to the sessile cordate leaves, thus justifying the recognition of a variety with various intermediate forms, but not of a distinct species.

Various localities in West Australia, also in North Australia, Port Darwin, M. Holtze, 1890. No. 1171. And in North-West

Australia, Isdell River, Graces Knob, Messmate Creek in Packhouse Range, between Isdell Range and Mt. Bartlett.

The figures on the plate are all of *S. alsinoides*, with the exception of that on the right, which represents the variety *cordifolium*.

The name "*Stylidium*" was altered by Baron von Mueller to "*Candollea*," the plants under this genus in the Dilleniaceae being transferred by him to *Hibbertia*. The original change of *Candollea* (1805) to *Stylidium* (1806), was accepted by Labillardiere, and all the species described under that name by Labillardiere, and all subsequent authors, including Mueller, up to 1873. The synonymy on which Mueller proposed to upset the established nomenclature has been shown in Engler's Pflanzenfamilien (III., 8, p. 260), to be incorrect, or at least doubtful.

Stylidium ciliatum, Lindl. (Stylideae).

On sand plains, Lowden, Preston River, West Australia, M. Koch, Oct., 1909. No. 1931.

Stylidium crassifolium, R. Br. (Stylideae).

In swamps, Lowden, Preston River, West Australia, Max Koch, Oct., 1909. No. 1942.

Stylidium elongatum, Benth. (Stylideae).

(Pl. LVII., Fig. 1–10).

The central figure in the plate is a fairly close reproduction of Bentham's original specimen. The degree of hairiness of the flower axis varies, as also does the length of the corolla lobes, their margins, the shape of the labellum, and the appendages.

S. elongatum var. *glabricaule*, F. v. M. (pl. LVII., fig. 11-14) has a glabrous scape, a more pointed labellum, and no appendages to the corolla, besides being a taller, stouter form almost worthy of specific rank. Various localities in West Australia.

Stylidium reduplicatum, R. Br. (Stylideae).

On rocks, Lowden, Preston River, West Australia, Max Koch, Oct., 1909. No. 1933.

Tillaea macrantha, Hook. (Crassulaceae).

In moist places, Lowden, Preston River, West Australia, Max Koch, Oct., 1909. No. 1935. New to West Australia.

Tillaea pedicellosa, F. v. M. (Crassulaceae).

Kangaroo Island, A. J. Campbell, Dec., 1905. Apparently unrecorded for the island.

Tricoryne elatior, R. Br. (Liliaceae).

Lowden, Preston River, West Australia, Max Koch, Oct., 1909. No. 1945.

Verticordia cunninghami, Schau. (Myrtaceae).

Napier, Broome Bay, West Australia, G. F. Hill, 14/10/1909. No. 3. And 22/5/1910. No. 192.

In old flowers, the style projects to a length of a centimetre beyond the flowers.

Verticordia helmsii, S. le Moore. (Myrtaceae).

This plant, described by S. le Moore in Journal of the Linnean Society, vol. 34, p. 190, was classed by Baron von Mueller as a variety *V. picta*, Endl. (*V. picta var Youngii*). Though close to that species, its elevation to specific rank seems justified by the obtuse leaves, smaller petals and flowers, glabrous style, etc. No intermediate forms appear to occur.

Additional localities are:—Between Victoria Spring and Ularing, Jesse Young, Oct., 1875; Golden Valley, 1888, and near Mt. Moore, 1889, West Australia, E. Merrall; Victoria Desert Camp 57, R. Helms, Sept., 1891.

Xerotes fimbriata, F. v. M. (Liliaceae).

Cowcowing, West Australia, Max Koch, Dec., 1904. No. 1014.

EXPLANATION OF PLATES XLIX-LVII.

Plate XLIX.—Acacia Kochii, Ewart and White.

Fig. 1.—Portion of a branch. Natural size.
2.—Leaf. Natural size.
3.—Inflorescence. Natural size.
4.—Flower. Enlarged.
5.—Fruit. About twice the natural size.

Plate L.—Acacia leptoneura, Benth. var eremophila, Ewart and White, and Acacia Ewartiana, White.

Fig. 1.—Small portion of flowering branch of *A. leptoneura* var. *eremophila*. Natural size.
2.—Flower of same. Enlarged.
3.—Gynaecium of same. Enlarged.
4.—Young fruit of same. Twice natural size.
5.—Small portion of flowering branch of *A. Ewartiana*. Natural size.
6.—Flower of same. Enlarged.
7.—Gynaecium of same. Enlarged.

Plate LI.—Angianthus lanigerus, Ewart and White.

Fig. 1.—Small portion of a flowering branch. Natural size.
2.—Outer bract from involucre. Enlarged.
3.—Inner bract from involucre. Enlarged.
4.—Concave bract surrounding partial head. Side view Enlarged.
5.—Single floret.

Plate LII.—Caladenia latifolia, R. Br. var. *glandula*, Ewart and Wood; and C. latifolia, R. Br.

Fig. 1.—Plant of *Caladenia latifolia* var. *glandula*.
2.—Flower of same.
3.—Labellum of same.
4.—Labellum of *Caladenia latifolia*. Type form.
5.—Flower of same.

PLATE LIII.—EREMOPHILA MERRALLI, F. v. M.; and E. GIBBOSIFOLIA, F. v. M.

Fig. 1.—Portion of plant of *Eremophila Merralli.*
2.—Flower of same.
3.—Corolla of same cut open.
4.—Flower of *Eremophila gibbosifolia.*
5.—Section of fruit of same.
6.—Section of fruit of *Eremophila Merralli.*
7.—Fruit of *Eremophila gibbosifolia.*
8.—Fruit of *Eremophila Merralli.*

PLATE LIV.—LINUM ALBIDUM, Ewart and White, and LINUM MARGINALE, Cunn.

Fig. 1.—Flower with petals removed. Enlarged.
2.—Gynaecium. Enlarged.
3.—Gynaecium of *Linum marginale.* Same scale as 2.
4.—Upper part of a plant. Natural size.

PLATE LV.—SARGA STIPOIDEA, Ewart and White.

Fig. 1.—Small portion of panicle, from which most of the spikelets have dropped off. Natural size.
2.—Very small portion of leaf. Magnified.
3.—Characteristic group of 3 spikelets. Magnified.
a. common pedicel.
b. hermaphrodite spikelet.
c. stalk of male spikelet.
d. Male spikelets.
4.—Male spikelet opened. Magnified.
a. Sterile glumes.
b. Flowering glume.
c. Pale.
d. Anther.
5.—Hermaphrodite spikelet opened. Magnified.
a. sterile glumes.
b. flowering glumes.
c. Pale.
d. Anther.

e. Stigmatic globe.
f. Awn.
6.—Gynaecium of hermaphrodite flower. Greatly magnified.
7.—Fruiting spikelet. Magnified.
a. Pointed end of common pedicel.
b. persistent stalks of male spikelets.

PLATE LVI.—STYLIDIUM ALSINOIDES, R.Br.

Fig. 1.—Entire plant.
2.—Flowering branches.
3.—Flower.
4.—Tip of flower enlarged.
5.—Apex of column. Front view.
6.—Apex of column. Back view.
7.—Longitudinal section of ovary.
8.—Apex of same, cut through septum.
9.—Seed.
10.—*S. alsinoides*, var. *cordifolium*.

PLATE LVII.—STYLIDIUM ELONGATUM, Benth. (Figs. 1-10). (Stylideae).

Fig. 1.—Entire plant.
2.—Young flower
3.—Flower from front with labellum appendage and a bract at the back.
4.—Flower at back.
5.—Labellum.
6.—Glandular hairs.
7.—Portion of leaf, back and front.
8.—Back and front view of apex of column.
9.—Vertical section of ovary.
10.—Seed magnified.

S. ELONGATUM var. GLABRICAULE.

Fig. 11.—Apex of scape.
12.—Flower from front.
13.—Labellum.
14.—Apex of column, back and front view.